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Remarks

The case as amended contains 11 total claims, of which 6 are in independent form. Four independent claims were previously paid for, and therefore a small entity fee of \$200 is being submitted with this response.

Claims 1-8 have been canceled as drawn to non-elected subject matter, without prejudice against bringing those claims in a divisional application. Claims 9, 15 and 18 have been amended to more distinctly claim what the applicant regards as his invention. The claims now specify that at least 50% of the pendant hydrocarbonyl groups contain a conjugated chain of 3 or 4 carbon-carbon double bonds. Support for the additional limitations is found in original claim 10 and at page 5 line 19 of the specification.

Claims 20-22 have been re-written into independent form.

Regarding the Rejections under 35 USC §102(b)

The examiner is requested to reconsider these rejections in view of the newly amended claims.

Both of the cited references (U. S. Patent No. 5,504,145 and U. S. Patent No. 3,318,828) describe functionalized oils, which are prepared by reaction of a vegetable oil or animal fat with a polyol. Each also describes certain prepolymers that are made from the functionalized oils. US 5,504,145 describes dispersions that are made from the prepolymers.

Both references describe a list of oils (or constituent fatty acids) which are said to be useful in making the functionalized oils and prepolymers. In US 5,504,145, these include five oils, and 7 fatty acids. It is believed that none of the five oils contains any significant amount of fatty acids that contain conjugated carbon-carbon double bonds. Dehydrated castor oil contains only about 25% of conjugated carbon-carbon double bonds, and even in that case, there are only two double bonds in conjugation. Of the 7 fatty acids, only one, eleosteric acid, is believed to contain significant quantity of conjugated materials. US 5,504,145 states a preference for linseed oil, in which the fatty acids include a triene, but one that is not conjugated. The examples in US 5,504,145 describe linseed oil and a sunflower oil monoglyceride, neither of which contains a significant amount of fatty acids with 3 or 4 carbon carbon double bonds in conjugation.

Similarly, US 3,318,828 describes at least 13 oils, of which only one, tung oil, is believed to contain significant levels of fatty acids having conjugated carbon-carbon double

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bonds. The examples of US 3,318,828 use linseed oil (no significant conjugation) or dehydrated castor oil (~25% of its fatty acids contain two conjugated carbon-carbon double bonds, but not 3 or 4).

As explained at pages 1-2 of the present specification, oils containing highly conjugated fatty acid groups are highly reactive, and a practical method for producing functionalized oils of this type has not heretofore been found. The high temperatures needed to drive the transesterification reaction causes the highly reactive conjugated fatty acids groups to engaging in side reactions, which result in premature polymerization and generation of colored species. The reaction conditions described in the references would also seem to promote these side reactions if used with a highly conjugated started material. This could account for the stated preference for other types of fatty acids and oils in US 5,504,145 (linseed oil, column 2 line 60-61), and the lack of examples in either reference using a highly conjugated material. No conditions are disclosed in the references which could reasonably be expected to produce a useful product, if a highly conjugated starting material were used. The mention of eleosteric acid and tung oil in the references, among a long list of other types, must be regarded only as a speculative teaching.

Accordingly, the claims as amended are believed to be novel and unobvious over the cited references.

Claims 20-22 are now believed to be in allowable form.

A notice of allowance is respectfully requested.

Respectfully submitted,
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